General Safety Rules and Emergency Procedures

Los Angeles Refinery
Carson Refinery

- 5 Pillars -

1. Process Safety
2. Personal Safety
3. Environmental Compliance
4. Fiduciary/Financial Responsibility
5. Employee Engagement

SUSPEND WORK OBLIGATION

Marathon employees and contractors,

While working at the Marathon Los Angeles Refinery, you should always comply with our Safe Work Practices.

You have the responsibility and the authority to suspend any work that does not comply with our safety practices without repercussion.

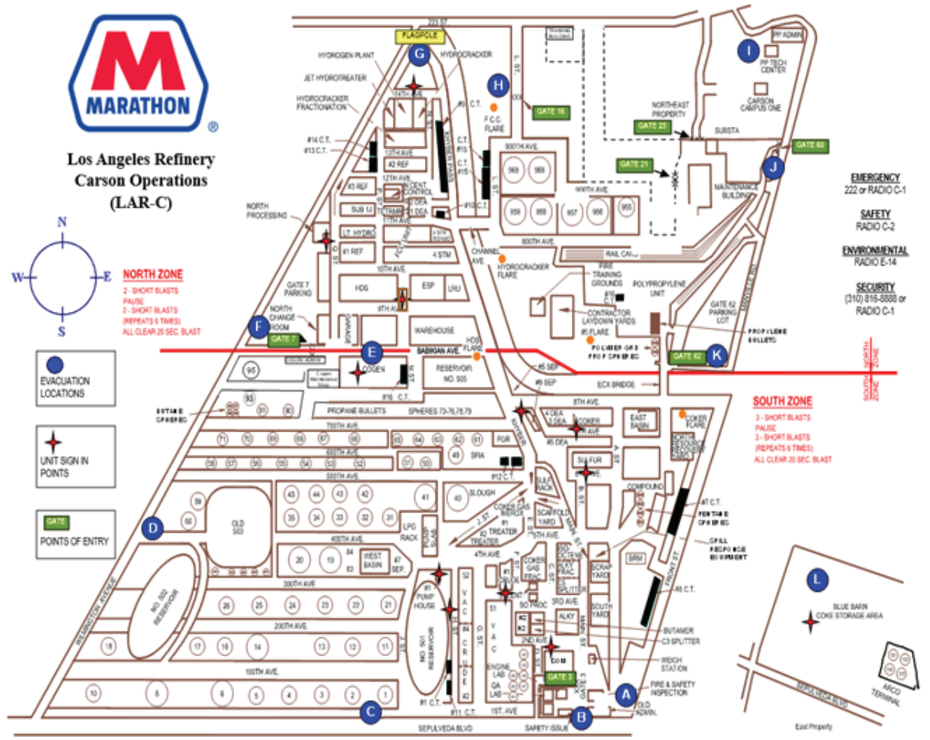
That is my commitment to you.

Brad Levi
Vice President, Los Angeles Refinery (310) 847-5209

LIFE CRITICAL SAFETY RULES

- **Safe Work Permit:** Obtaining and working under a valid Safe Work Permit when one is required.
- **Fall Protection:** Protect themselves from a fall from elevated locations.
- **Confined Space Entry:** Entering a confined space only after receiving a valid Safe Work Permit and following all requirements of the Safe Work Permit while working in and around the confined space.
- **Energy Isolation:** Complying with the Refinery's Energy Isolation procedure (Lock Out/Tag Out) by ensuring that all energy sources have been identified, isolated, deenergized, and locked out and tagged when required prior to opening equipment or performing maintenance activities.
- **Hot Work:** Conducting Hot Work only after a Safe Work Permit has been completed, the area has been gas tested and all fire prevention requirements of the Safe Work Permit have been implemented.
- **Process Safety:** Never bypass critical process safety equipment without following the established procedure and obtaining the proper authorization.
- **Alky Unit Personal Protective Equipment:** Strict adherence to PPE requirements is required to prevent serious injuries and illnesses as a result of exposure to the acid catalysts used in alky units.
- **Electrical Safe Work Practices:** Strict adherence to Electrical Safety Program, PPE requirements, and required Work Permits when working on or operating energized electrical equipment.
- **Cranes and Lifting:** Comply with refinery crane and rigging safe work practices.

Los Angeles Refinery
Carson Operations
(LAR-C)



NOTES

YOU NEED TO ATTEND THE LAR FACE 2 FACE ORIENTATION WITHIN 15 DAYS OF COMPLETING YOUR OSCA TRAINING

CARSON REFINERY EMERGENCY REPORTING METHODS

Dial 222 or 8888 from any refinery phone or (310) 847-8888 from any outside phone	Press and hold the orange button on your radio for 3 seconds	Radio Channel C-1 for Refinery Shift Supervisor

EMERGENCY EVACUATION ALARM	North Area	South Area	All Clear	Unit Specific	EVACUATE CROSS WIND
	2 Short Blasts Repeated 6 times	3 Short Blasts Repeated 6 times	20 second Continuous Blast	Beeping alarm from Ops Shelter	

GENERAL INFORMATION

Insulation Banding	BLUE Asbestos	BLACK Non-Asbestos	Unknown Treat as Asbestos	Exposed DO NOT DISTURB	Report Exposed Insulation
	**NFPA Diamond Color & Numbering**	**RED Fire Hazard**	**BLUE Health Hazard**	**YELLOW Reactivity**	**WHITE Specific Hazard**
	- 0 - No Significant Hazard	**- 1 - Slight Hazard**	**- 2 - Moderate Hazard**	**- 3 - High Hazard**	**- 4 - Extreme Hazard**
WASTE DISPOSAL	**Yellow Drum Common Trash**	**Green Drum Oily/Process Trash**	**Red Drum Aerosol cans**	**White Drum Asbestos**	**Black Drum Specific Waste**

Reporting and Responding to an Emergency

- Remain calm and provide:
  - Your name
  - The nature of the emergency (fire, spill, injury, etc.)
  - Your location (unit, building, cross streets, area)
  - What specific material is involved, if you know
  - Wind direction, if you know
- Maintain communication with the person you are reporting the incident to until you are "released"
- Only attempt to extinguish an incipient fire if you can put it out with the use of one fire extinguisher.
- If there is a vapor release, evacuate the area in an upwind / crosswind direction

INJURY RESPONSE:

- DO NOT move the injured person, unless necessary
- Only personnel who are trained in CPR/First Aid may provide additional assistance
- Assure the injured person that help is on the way, and remain with them until help arrives

SPILL RESPONSE:

- Treat all spills as hazardous chemicals
- Avoid contact with the chemical and evacuate the area

EVACUATIONS:

- Remain calm
- Shutdown all wok and equipment, if safe to do so
- Immediately go to the designated evacuation area and remain there until you have been accounted for and the all clear has been given
- Follow the direction of the Evacuation Marshal

ENTERING PROCESS UNITS:

1. Always check in with Operation before going into the unit
2. Always sign in and out of the unit, via the Unit Log
3. Non-Intrinsically safe mobile phones, open flint lighters, and strike anywhere matches are prohibited

ELEVATED WORK:

All work above 6' and within 6' of the leading edge requires the use of a safety harness with a lanyard (fall arrest system) while maintaining 100% tie off. **Except** work performed from approved scaffolding (green tagged) or permanent platforms that have a complete railing system (fall restraint system)

ROAD SAFETY:

1. The maximum speed limit is 15 MPH unless otherwise post.
2. Seat belts are required for everyone in the vehicle
3. No personnel shall ride in the bed of a pickup truck, unless design by the manufacturer to do so.
4. Spotters are required for vehicles with obstructed rear and side visibility or within 10' of process equipment.
5. Do not stop in the middle of a roadway to talk.
6. Pedestrians have the right of way
7. Never leave a vehicle running, while unattended
8. Always leave your keys in the vehicle when you are not parked in a designated parking area (spot)
9. NEVER block fire or emergency equipment
10. Pull to the side of the road if emergency vehicles approach with lights flashing
11. Pull to the side of the road to answer the radio or your mobile device.

MINIMUM PPE:

1. Hard Hat
2. Safety Glasses meeting the ANSI Z87.1 standard
3. Fire Retardant Clothing (FRC) must be the outermost garment. Two-piece FRC must have the shirt tucked in
4. Protective toe footwear that meets the ASTM 2413 requirements, including a defined heel
5. Hearing protection while inside the process unit or where posted
6. Chemical goggles are required on your person
7. Personal H_2S monitors while in the process unit

TOOLS AND EQUIPMENT:

1. Never use defective or altered tools or equipment
   - Report or discard defective tools
2. Tools & equipment are to be used as intended
3. Ensure guards and handles are in place for protection
4. When working on equipment ensure it is isolated and de-energized per the LOTO procedure

HOUSEKEEPING:

Prevent slips, trips and falls by keeping you job site clean as you work by cleaning spills, trash and elevating cords and hoses, when possible.

PERSONAL RESPONSIBILITIES:

1. Immediately report all incidents (hazards, injuries, and near-misses).
2. Perform a pre-task assessment before each job (Job Safety Analysis) and discuss at the Toolbox Talk
3. Ensure Mutual Understanding has been achieved with Operations prior to starting the job
4. Protect yourself and other (regardless of company name) and always THINK SAFETY FIRST.

PROCESS SAFETY OVERVIEW FACT SHEET

The purpose of this fact sheet is to summarize information regarding potential hazards resulting from unintentional release, spill, fire or explosion and, what you should be aware of and do in order to remain safe.

We need you to do your part to understand the hazards and know how to prevent upsets to the process.

This information is summarized, ask your Marathon contact, or any Fire, Safety, Health or Process Safety representative for more detailed information. You may also reference the Safety Data Sheets (SDS) regarding LAR Process Safety Program.

Remember, you work in and around “live” process units ... Marathon will do its part to keep the process from affecting you and “keep it in the pipes”- your part is to perform your job safely!

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PROCESS SAFETY FREQUENTLY ASKED QUESTIONS:

Q: What is Process Safety?

A: Simple put: "KEEP IT IN THE PIPES"

Q: What’s important to know about process safety?

A: The most important thing to be aware of is if the area in which you will be working has the potential for unintentional Fire, Explosion, Toxic Release and understand the Emergency Action Plan in case something does go wrong.

Q: How do I find more information?

A: (1) Unit Process Safety Boards posted at the edge of each unit (see photo in section 4)

(2) Safety Data Sheets (SDS)

(3) Ask your Marathon contact (representative)

(4) Access Marathon’s Document Management System (DMS) for the Process Overview Manual

(5) Always ask Operators about the unit when you review your work permit

Q: How do I know if I am doing the right things for Process Safety?

A: When you know…

(1) How the process hazards can affect you

(2) How you can affect the process

(3) You are taking time to follow all procedures and permit conditions already designed to keep you safe

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EMERGENCY ACTION PLAN
(summary)

1. Dial 222 or 8888 from any refinery telephone to reach security or use the **orange** button on the Radio (hold 3 seconds) or 501/RSS can be reached at Radio channel C-1.
2. Give your exact location, type of emergency (what's wrong) and what is needed.
3. Stay on the phone until the operator has obtained all the information needed.
4. Respond to the Fire alarms/ plant fire whistle, but NEVER wait for a whistle if something is wrong.
5. Go to the muster point/ evacuation point for your work area and remain there until further instruction is given by a Marathon Representative.
6. Only extinguish a fire if you are trained and authorized to do so.

Never wait for a whistle if something is wrong

Evacuate and report any fire, spill, release, or condition that is dangerous to life and health

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WHAT YOU SHOULD DO

Review the information on the inside of this booklet and keep at least one copy with your work crew.

Find the Unit(s) you will be working in and discuss what Process Hazards you can encounter while working on that unit. Discuss with your work crew the potential to come into contact with product, temperature and pressures and any hazardous energy along with what id stated on the permit.

Always assume that a Unit is “Live” even if you think it is down. Talk about how your crew would escape in the event of an emergency and remember… you can affect the process

Never stand on, hang tool bags, put tools on or bump equipment - if it does happen, report it - please.

Even the smallest “hits” to equipment can cause a release or shut the process down.

Look for these signs

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Carson Unit or Area and Radio Contact Channel	Major Feeds in	Major Feeds Out, Additives, by products or waste streams	Temp. & Pressure Ranges	Potential Process Hazards
Alky, and Isom - B4 & B5 Alkylation, Alky Merox, Butamer, Alky Depentanizer, Coker Gas Fractionation,(CGF), South Hydrogen Plant, Naphtha HDS, BenSat & Isom, C3 Splitter, #5 Flare	Light Hydrocarbons (Butanes, Butylenes, Propane Propylenes and Isobutane), Sulfuric Acid, Caustic, Steam, Merox Catalyst, Isomerate, Butanes, H2S, Mercaptans, Ammonia, Coker Gasoline, SFIA Debut Bottoms, Prism Waste Gas, Natural Gas, CGF Debut Bottoms, Light Reformate, Hydrocracker LUX, Hydrogen	Propane, Propylene, Butane, Mixed Butanes, Pentane, Enricher Vent Gas, Spent Acid, Spent Caustic, Alkyl ate, Reformer Feed, Sour Water, Slop Oil, Hydrogen Gas, Isomerate, Stripper off gas, Scrubber off gas, Water, Spent Catalyst	Ambient –750°F Up to 800 psig	Ammonia, Benzene, Caustic, Fire-Explosion, Hydrogen, H2S, Mercaptan, Sulfuric Acid, Perchlorethylene
Cogen - A7	Natural Gas, Fuel Gas, Butanes, Water, Condensate	Ammonia, Spent Caustic, Sulfuric Acid, Carbon Dioxide	Up to 1100 ℉ Vacuum - 1345 psig	Ammonia, Fire-Explosion, High Voltage Electrical
Coker - B1 Coker Blowdown Recovery and Gas Treating, Blue Barn, Coker Flare	Vacuum Tower Bottoms-Heavy Residual Oil, Slop Oil, Gases from #51 and #52 Vac Units	Off Gas, Coker Gasoline, Coker Stove Oil, Coker Diesel, Coker Heavy Gas Oil, Coke, Refinery Fuel Gas, Carbon Dioxide, Water	Ambient - 930 °F Ambient - 700 psig	Benzene, Fire-Explosion, H2S, PNA’s polynuclear aromatics
Crude - B6 & B9 Vacuum, Treater Complex, Straight Run Naphtha Dehexanizers, #51 and 52 Vac Units, Oily Water Stripper Unit, Spent Acid System, #2 Treater	Crude Oils, Straight Run Naphtha, Straight Run Resid, Desalter water, ground water, Sour Water, Spent Acid	Naphtha, Off gas, Stove Oil, Diesel, Runback Gas Oil, Straight Run Resid, Dehex bottoms, Dehex Overhead, Light Gas Oil Heavy Gas Oil Vacuum Tower Bottoms, Hydrocarbons, stripped water, condensed benzene water	Ambient - 790 °F Vacuum to 600 psig	Ammonia, Benzene, Caustic, Fire-Explosion, H2S, Mercaptan, PNA’s, Sulfuric Acid,
FCC Complex & #4 Steam Plant A5 & A6 FCC Gas Compression, FCC Gas Plant Liquids Recovery Unit, Cat Poly, Tetramer, 1 & 2 Amine Units, #4 Steam Plant, FCC Flare	Gas Oils, Cracking Catalyst, Coker Off Gas, 100% Oxygen, Propane/Propylene, Lean Amine, Water, Air, oxygen scavenger, Fresh Caustic	Fuel Gas, Propane/Propylene, Butane/Butylenes, Light Gasoline, Heavy Gasoline, Light Cycle oil, Clarified Oil, Jet Cut bottoms, Spent Catalysts, Sour Water, Gasoline, Spent Caustic, Steam, Rich Amine	-100 °F to 1400°F Vacuum to 600 psig	Ammonia, Benzene, Caustics, Fire-Explosion, H2S, PNA’s, Sour Water Hot Catalyst Powder & Dust
Hydrocracker Complex - A1 Hydrogen Plant, HC Reaction and Fractionation Sections, Jet Hydrotreater, Hydrocracker Flare, NA Sour Water Drum	Hydrocarbons, Natural Gas and other waste gases, FCC Cycle oils, diesels, light vacuum gas oils, Hydrogen Gas, Coker Stove Oil and straight run stove Oil, Refinery Fuel Gas	Diesel, Jet Fuel, Gasoline, Spent Catalyst, Jet Fuel Oil, Hydrogen Gas, Carbon Dioxide, Water, propane, butane, fuel gas, sour water, anhydrous ammonia, natural gas	100°F -1500 °F Vacuum to 2000 psig	Ammonia, Benzene, Fire-Explosion, H2S, Hydrogen Gas, Nickel Carbonyl
Reformer/HDS Complex - A3 & A4 #1, #2, & #3, Midbarrel, Light Hydro, Fluid Feed HDS, PRISM Unit, HDS Flare, Reformer Fractionator, Light Ends Depropanizer LED, DIB, LPG Recovery	Heavy Gas Oils, Straight run diesel, straight run stove oil, coker stove Oil, light cycle oil, Hydrogen, Low Octane Naphtha, high olefin feed, refinery fuel gas, desulfurized stripper bottoms, light hydro stabilizer bottoms, depentanizer bottoms, light gasoline, stabilizer overhead liquid,,debutanizer overhead liquids, depropanized overhead vapor	Desulfurized Heavy Gas Oils, Desulfurized Diesel, Stove Oil, Light Cycle Oil, High Octane Reformate, Hydrogen, desulfurized naphtha/light naphtha, light ends, high benzene content Gasoline, low benzene content reformate, pentane, propane, butane, fuel gas, sour water	Up to 1000°F Up to 1900 psig	Ammonia, Benzene, Fire-Explosion, H2S, Hydrogen PNAs, Perchlorethylene, Sulfuric Acid
SFIA Complex, - B8 Naphtha Splitters, Debutanizers, Depentanizer, Hexane Towers, Vapor Recovery	Straight run hydrocarbons from Crude Units, Pentane	Reformer feed, light jet fuel, normal hexame, Iso-Hexane and Benzene mix, Normal Pentanes, Butanes	Up to 375°F Up to 90 psig	Benzene, Fire-Explosion, H2S
Storage & Handling - B7 Tank Farms, Blender	Hydrocarbons (crudes, oils, naphtha, jet fuel, finished and unfinished products, water, etc.) Slop Oils	Sulfur, Propane, Hydrocarbons, Butane, Pentane, Propylene, Ethyl Mercaptan, Processed Water, Steam	Up to 375°F Up to 350 psig	Benzene, Fire-Explosion, H2S
Sulfur Plant - B2 Tail Gas Unit, Stripper, Clause Plant, 3,4,5, Amine Units	Acid Gas, Sour Water, Lean and Rich Amine	Molten Sulfur, Stripped Sour Water, Lean Amine	Up to 2800 °F Up to 150 psig	Ammonia, H2S, Sulfur Dioxide
Train & Rack Movement - B3	Hydrocarbon (light ends)	Propane, Hydrocarbons, Butane, Pentane Propylene, Ethyl Mercaptan	Up to 250ºF Up to 340 psig	Fire-Explosion, H2S, Mercaptan
Waste Water - B11 #2 Oxidizer, Lift Stations, Letdown Steam, IGF, Sludge Centrifuge & Dryer	Slop Oils Wastewater solids/sludge, Sodium Hypchlorite (bleach), wastewaters, Steam	Spent Caustic, Sulfur, Hydrocarbons, Processed Water, Steam	Up to 265ºF Up to 120 psig	Benzene, Caustics, Fire, Explosion, H2S, Sour Water
Other Process Safety Concerns at Carson	Hazardous Energy from Temperature Extremes, Pressure, Chemical Reactions, Stored Energy in Batteries, Radiation, Steam, Electrical Hazards & Static Electricity PS Dept Rev 3 Dec 5, 2017			